4.5 CULTURAL RESOURCES

This section presents a description of the cultural resources setting for the proposed project. The affected environment described in this section is based upon information gathered during research and field investigations conducted by EDAW in 2006, which was presented in the *Cultural Resources Inventory and Assessment, Singh and Nicolaus Restoration and Public Access Project*, dated March 2007 (Appendix E). The cultural resource impact analysis subsection addresses the potential for disturbance of documented and undocumented cultural resources during construction activities. Mitigation measures are recommended to reduce any potentially significant impacts.

This analysis reiterates the findings in the Bidwell-Sacramento River State Park (BSRSP) General Plan and EIR (Park Plan), regarding impacts to cultural resources (Preliminary General Plan and Draft EIR, Impact CUL). The proposed project actions are consistent with the Park Plan, as described in Chapter 1, "Introduction," of this DEIR. While the Singh Unit was discussed in Section 2.3.3 of the Park Plan), the Nicolaus property was not identified as a potential acquisition site at the time the Park Plan was prepared. Therefore, this analysis addresses project-specific impacts on the proposed project site, including the Nicolaus property, to ensure complete analysis of the project's potential effects on cultural resources.

4.5.1 ENVIRONMENTAL SETTING

NATURAL SETTING

The project area and its vicinity have been occupied and used by diverse peoples for thousands of years. The varied natural setting and accessibility to other areas of the valley, the Sierra Nevada foothills, and the coastal regions have attracted a wide range of native and immigrant cultural groups. Evidence for prehistoric patterns of land use is located within the vicinity: however, the remains of major historic land-use along the Sacramento River appear, from the results of limited investigations, to have been obliterated by seasonal flooding, erosion, and channel migration along the Sacramento River. Topography, vegetation, water sources, and the ease of waterway and overland transportation to a much wider geographic region make it likely that the area was heavily utilized throughout prehistoric and early historic times. However, seasonal flooding of the Sacramento River has deposited large amounts of silt on agricultural lands, which has resulted in the covering of archaeological deposits; particularly along the east bank of the river. Given such a landscape, it is almost certain that undocumented archaeological sites, features, and artifacts are present within the project site and the immediate vicinity. As such, encountering such resources during ongoing and future development needs to be addressed if these resources are to be preserved for future generations.

Patterns of historic-era and prehistoric land-use and activities within the project site and the surrounding area have been dictated to a great extent by the nature of the area's geomorphology and the biotic resources that are found in this unique and dynamic setting. The Sacramento River and its associated tributary creeks, while constituting a great attraction for settlement and resulting in the deposition of many cultural remains, has also affected those same sites through heavy erosion and the meandering of river and stream courses over centuries. Consequently, it is not possible to discuss the nature of cultural resources in the area without first examining the nature of the river system itself.

Three Sacramento Valley geomorphic regions (i.e., floodplains and natural levees, flood basins, and low alluvial plains and fans) are located within the project site and the immediate vicinity (see Bryan 1923; Hinds 1952:145–157; Poland and Evenson 1966:239). Prior to the heavy gold mining operations of the 19th and 20th centuries and large-scale reclamation projects, several of the perennial and intermittent streams (e.g., Butte and Big Chico Creeks) were prevented from flowing into the Sacramento River by natural levees that bordered the river. These water courses drained into the valley floor, eventually dispersing in tule marshlands bordering the main river or in the flood basins (Thompson 1961:299; Warner and Hendrix 1985:5.8–5.9 in Bayham and Johnson 1990:20).

It was the rich and diverse floral and faunal species fostered by these marshland environments that attracted Native Americans.

Historic aerial photographs, coupled with sediment analysis of the Sacramento River floodplain, provide evidence of a dynamic system in a state of constant change. The area west of Pine Creek, and the west side of the Sacramento River opposite Mud and Big Chico creeks, has seen numerous changes in the river channel over the last 120 years (Larsen et al. 2002:14–16). Some of these channel shifts resulted in prominent landforms that are visible today. Pine Creek Bend (Dunning Slough), in particular, changed and steadily migrated downstream throughout the late 1800s and well into the 20th century. Between 1870 and 1920, the Jenny Lind Bend, located between Pine and Big Chico creeks, also migrated downstream. During the late 1800s the ever-shifting river channel formed the area known as the Indian Fishery to the west of the current project. Coupled with heavy historic mining and reclamation impacts to the river channel and the surrounding floodplain areas, the constant channel migrations of the Sacramento River and nearby creeks have likely obliterated many historic and prehistoric sites.

CULTURAL SETTING

To place the prehistoric and historic resources of the project area into a broader context, they need to be discussed within a larger cultural framework. The presence of a variety of natural resources, topography, and proximity to important transportation routes made the project area an ideal location for prehistoric and historic settlement. Consequently, although no sites, features or artifacts have been formally recorded within the project site, many such resources are likely to be encountered, although they may be buried under a foot or more of sediments.

Prehistoric Archaeological Context

Archaeological investigations in the general area have been somewhat limited, and while contributing a great deal to the body of knowledge of the prehistory of the region, there are many issues which are poorly understood. The first scientific studies relevant to the region occurred in 1907 when the University of California, Berkeley conducted reconnaissance projects in the Tehama and Red Bluff areas (Nelson 1907). Little else in the way of academic research was conducted until the 1950s when various large-scale water projects were constructed. The River Basin Survey resulted in a considerable body of research prior to the construction of a number of large water projects. One of the most important portions of this study included extensive inventories and excavations of prehistoric sites for the Oroville Dam (Treganza 1954). Treganza also conducted salvage excavations at prehistoric sites prior to the construction of the Redbank Reservoir in nearby Tehama County (Treganza 1954). Investigations by Chartkoff and Chartkoff (1983) at the Patrick Site (4-But-1), to the east of the current project, built upon the prehistoric cultural sequence developed for the Oroville vicinity first proposed by Olsen and Riddell (1963) (based in part of Treganza's 1953 work), which was further updated and expanded by Ritter (1970) and Kowta (1988).

Apart from the more broad-based findings of the work of Treganza, Chartkoff and Chartkoff, Riddell, Olsen, Ritter, and Kowta, locally focused archaeological investigations have occurred in the immediate project vicinity. These include the excavations conducted by Bayham and Johnson (1990) at CA-Gle-105 on the west bank of the Sacramento River. The archaeological remains at this site were interpreted as those of a small summer camp occupied during the Early/Middle Horizon (ca. 3000 years before present [BP]), and again following a hiatus around 2000–2500 BP. Deal (1987), reported on research on the site of CA-But-288, east of the Sacramento River and west of Pine Creek, that revealed evidence for shifting subsistence strategies over time.

Along with numerous cultural resource management studies that have been performed in the general area, the results of these investigations constitute the bulk of what is known regarding early Native American cultural sequences in the region. However, while relatively little may be known about specific variations in early Native American subsistence, technological, and ritual practices, broad patterns of material culture have been documented over large geographic regions in California, including the area surrounding the current project.

The earliest well-documented entry and spread of humans into California occurred at the beginning of the Paleo-Indian Period (12,000–8,000 BP). Social units are thought to have been small and highly mobile. Known sites have been identified within the contexts of ancient pluvial lake shores in the Great Basin and the coastline of California and are evidenced by such characteristic hunting implements as fluted projectile points and flaked stone crescent forms. Prehistoric adaptations over the ensuing centuries have been identified in the archaeological record by numerous researchers working in the area since the early 1900s, as summarized by Fredrickson (1974), Moratto (1984), and White (2003a).

Beardsley (1948) and Lillard et al. (1939) and others conducted numerous studies that form the core of our early understanding of upper Central Valley archaeology. Little has been found archaeologically which dates to the Paleo-Indian or the subsequent Lower Archaic time periods (White 2003a:11–12). The lack of sites from these earlier periods may be due to high sedimentation rates, which have left the earliest sites deeply buried and inaccessible. However, archaeologists have recovered a great deal of data from sites occupied during the Middle Archaic period (5000–3000 BP). During this time, the broad regional patterns of foraging subsistence strategies gave way to more intensive procurement practices. Subsistence economies were more diversified, possibly including the introduction of acorn processing technology. Human populations were growing and occupying more diverse settings. Permanent villages that were occupied throughout the year were established; primarily located along major waterways.

The onset of status distinctions and other indicators of growing sociopolitical complexity mark the Upper Archaic Period (3000–1500 BP). Archaeological evidence suggests exchange systems became more complex and formalized and evidence of regular, sustained trade between groups was seen for the first time (White 2003a:Fig. 4).

Several technological and social changes characterized the Emergent Period (1500–150 BP) when the bow and arrow were introduced, ultimately replacing the dart and atl-atl. Territorial boundaries between groups became well established and were recorded in early historic and ethnographic accounts. It became increasingly common that distinctions in an individual's social status could be linked to acquired wealth. Exchange of goods between groups became more regularized with more goods, including raw materials, entering into the exchange networks. In the latter portion of this period (500–200 BP), exchange relations became highly regularized and sophisticated. The clamshell disk bead became a monetary unit for exchange, and increasing quantities of goods moved greater distances just prior to large-scale European settlement of California (White 2003a:13–14).

Ethnographic Context

Ethnographically, the east bank of the Sacramento River was inhabited primarily by the Maidu (also referred to as the Konkow or the Mechoopda) who controlled extensive territory (Dreyer 1984:41, 43, White 2003a:21). The most extensive documentation of the Maidu was compiled by Dixon (1905), with other works by Hill (1978), Kroeber (1925, 1932), Riddell (1978), and Voegelin (1942).

The name Konkow, derived from the anglicized version of the native term koyo-mkawi, meaning "meadow land," refers to peoples whose territory included sections of the Sacramento Valley floor and portions of the Sierra foothills east of the present-day cities of Chico and Oroville (White 2003a: 21, Fig. 11). Formal delineations of the territory may have included prominent physiographic features and landforms, although any certainty as to the early historic-period boundaries have been lost through decimation of the tribe resulting from disease and the removal of the people from their traditional lands during the 19th century. In general, such boundaries may not have been as hard and fast as reported in ethnographic accounts as extensive trail systems existed within the valley and foothill regions that connected the Konkow with other Maidu groups and tribes throughout northern and central California.

With a few notable exceptions, the lifeways of the Konkow differed little from their neighbors in the valley and in the Sierra foothills to the east. Probably the main difference, other than linguistic variation, occurred in the

spiritual realm as the Konkow adhered to the ritual and belief systems associated with the Kuksu cult involving the impersonation of deity figures (White 2003a:21). Many other groups in the area did not practice these rituals, although the Nisenan and other non-Maiduan central California peoples did (Dixon 1905:322).

Konkow settlement conformed to a "village community" pattern that served as the only formal political structure of the tribe (Kroeber 1925:398). Village communities, which consisted of several closely spaced small settlements and a larger village containing a semi-subterranean earth-covered ceremonial lodge, were autonomous and self-sufficient units (White 2003a:21). Individual communities probably numbered around 200 inhabitants and "owned" or controlled specific territories in which hunting, gathering, and fishing areas were considered common property. The most politically influential man of each community lived in the central village. This head-man acted as an advisor and spokesman for his group, although he possessed little in the way of concrete power. This individual was not selected by members of the village community nor was the position hereditary. Rather, the head-man was chosen by the village shaman with the aid of various messenger spirits who could also remove him as they saw fit (Dixon 1905:223–224).

Konkow economic and subsistence patterns were largely based on a seasonal cycle that involved residence in winter village sites in the valley and summer journeys into the mountains for hunting. In the spring, various types of roots, stems, leaves, seeds, and fruits were gathered in large quantities to be dried for winter consumption (Dixon 1905:187). As with many Native American groups in California, the acorn, gathered from a variety of oak species, formed the staple food of the Konkow diet.

In general, Konkow and Maidu life remained unchanged for generations until 1833, when a disease epidemic, possibly malaria, decimated tribes throughout central California. During his expedition north along the Sacramento River in 1833, John Work noted the decimation of villages which had been observed earlier in December of 1832 (Maloney 1943 and 1944). The Konkow population and cultural systems probably never fully recovered from the effects of the epidemic that was followed by the Gold Rush period starting in 1849. These two factors combined to thoroughly disrupt their social, spiritual, economic, and subsistence patterns to a point that the Konkow and Maidu were quickly reduced to a marginal existence in the region. Most illustrative of the impact these events had on the Konkow and their Nisenan neighbors are population estimates: in 1846, approximately 8,000 people from these groups were recorded. By 1910, that population had been reduced to less than 1,000 (Riddell 1978:386).

Historic Context

A detailed overview of history pertinent to the area can be found in Hood and McGuire (1981). The historic context presented below summarizes this work and includes additional information obtained from other specific historic accounts and documents.

The earliest documented European entry into the region around the project site occurred in 1808. That year, Gabriel Moraga led an expedition that eventually traveled up the Feather River and then proceeded north along the banks of the Sacramento River, possibly to the current location of Butte City. The purpose of Moraga's travels was largely to search for suitable locations for new missions and to further establish Spanish rule in the face of increasing foreign pressure, from the Russians in particular. Thirteen years would pass before another formal exploratory expedition into the region was launched. In 1821, Mexican governor Pablo Vicente de Sola sent Captain Luis Arguello with 55 soldiers to drive out reported American and Russian intruders from the areas north and east of San Francisco. Although Arguello's route is somewhat speculative, it appears he and his party may have eventually followed the Sacramento River north towards the general region located at the confluences of Mud and Big Chico Creeks (Beck and Haase 1974).

Hudson Bay trappers probably visited the project area during the early decades of the 19th century. One such expedition was led by John Work in 1832 and 1833 (Maloney 1943 and 1944). Work's description of the area provides an excellent account of the area prior to Euro-American development. On his return trip north in August

of 1833 he indicates that the weather was excessively hot with no wind. Two beaver and one elk were killed near the confluence of the Sacramento River and Chico Creek, and he indicates that they camped at a location which has subsequently been identified as Pine Creek (Maloney 1944:133 and 144). The next major exploratory or emigrant group to venture into the area was the Charles Wilkes expedition, led by Lieutenant George Emmons. This party led a group of emigrants into California from the Columbia River, passing south along the west bank of the Sacramento River in October of 1841. Lansford W. Hastings (best known for his scouting of the "Hastings Cut-off" in Utah that eventually doomed the Donner Party) and Joseph B. Chiles led an emigrant party into California, through the area in 1843. This was the same year that John Bidwell, who would have a dramatic impact on the area, first viewed the area surrounding Chico Creek.

The first in a series of events that shaped the economic and cultural landscape in the area occurred during the middle 19th century with the formation of Mexican land grants. In 1844 three such grants were issued and led to the establishment of several prominent ranchos. *Rancho de Farwell*, granted to Edward A. Farwell, was located to the south of the current project; *Rancho Arroyo Chico*, which included the land now occupied by the Singh and Nicolas properties, was awarded to William Dickey; and *Rancho Capay* to the west of the project was granted to Josefa Sotao. John Bidwell, who had supervised some gold mining operations for William Dickey, purchased *Rancho Arroyo Chico* in 1849 and by 1852 had 200 to 300 acres under cultivation.

While wheat was the primary crop during the early agricultural period, it was slowly replaced with orchards between 1883 and 1900. The prominence of agriculture in the region and the profitability of large-scale operations were soon reflected in transportation improvements and innovations in the area that continued to be established well into the 20th century. One notable example of the mutually supporting industries can be seen in the operations of David Reavis, who acquired some 12,000 acres of the Farwell Grant and soon had over 7,000 acres sown in wheat in the 1870s. In part to aid in the transportation of goods to and from his property, he established Reavis Ferry, which crossed the Sacramento River just north of Chico Landing. Later river crossings included the Chico Free Bridge that was first erected in 1882. Flooding destroyed the bridge in 1889, but it was quickly rebuilt and subsequent replacements occurred in 1894, 1901, and 1913.

While various ferries and river crossings facilitated local commerce and transportation, the movement of the vast agricultural output of the region to market relied chiefly on river-borne, and eventually railroad transit. By the late 19th century, river navigation contributed to the viability of the vast rancho holdings, and it was during this time that Chico Landing, situated near the confluence of Big Chico Creek and the Sacramento River, became a substantial link in the shipment of agricultural products from the Bidwell and Richard J. Walsh ranches in particular. As competition to serve these and other large ranch and farm enterprises increased, the principal steamboat owners formed the California Steam Navigation Company in 1854, which basically controlled navigation on the river north of Sacramento. By 1913 the company was operating seven steamers and 23 barges, primarily between Chico Landing east of Chico, and San Francisco Bay (McGowan 1961:304–305).

Although railroads were being built in the Central Valley of California during the 1850s and 1860s, rail lines were not built into the vicinity of the project until the early 1870s, when the California and Oregon Railroad, (a subsidiary of the Central Pacific) was extended to Chico in July of 1870, providing a faster and more efficient means of bringing produce and cattle to market (White 2003a:50-51). As the area became more connected by rail to Sacramento, commercial river traffic soon decreased. One of the more notable lines in the area was the Northern Electric Rail, which connected Chico directly with Sacramento. This line ceased to exist as a separate company in 1921 when it was absorbed by the Southern Pacific Railroad, which still operates in the area today as the Union Pacific Railroad.

4.5.2 REGULATORY SETTING

CEQA

Cultural resources in California are protected by a number of federal, state, and local regulations, statutes, and ordinances. Prior to approval of discretionary projects, potentially significant impacts of the project on unique archaeological resources and historical resources must be considered under CEQA (Public Resources Code Sections 21083.2 and 21084.1) and the State CEQA Guidelines (California Code of Regulations Title 14, Section 15064.5). The State CEQA Guidelines define a "historical resource" as "a resource listed or eligible for listing on the California Register of Historical Resources" (CRHR) (Public Resources Code Section 5024.1). A historical resource may be eligible for inclusion on the CRHR if it:

- is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage; or
- is associated with the lives of persons important in our past; or
- embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
- has yielded, or may be likely to yield, information important in prehistory or history.

In addition, the State CEQA Guidelines (Section 15064.5) require consideration of "unique archaeological resources." If an archaeological site does not meet the criteria for inclusion on the CRHR (which would qualify it as an historical resource), but does meet the definition of a unique archeological resource as outlined in the Public Resource Code (Section 21083.2), substantial adverse effects to it may be treated as a significant impact under CEQA. Mitigation treatment options under Public Resources Code Section 21083.2 for significant impacts to unique archaeological resources include a project that preserves such resources in place in an undisturbed state. Other acceptable methods of mitigation under Section 21083.2 include excavation and curation or study in place without excavation and curation (if the study finds that the artifacts would not meet one or more of the criteria for defining a "unique archaeological resource").

Section 15064.5(e) of the State CEQA Guidelines and State law (Health and Safety Code Section 7050) requires that excavation activities be stopped whenever human remains are uncovered and that the county coroner be called in to assess the remains. If the county coroner determines that the remains are those of Native Americans, the Native American Heritage Commission (NAHC) must be contacted within 24 hours. State CEQA Guidelines Section 15064.5(d) and State law directs the lead agency/property owner to consult with the appropriate Native Americans as identified by the NAHC and directs the lead agency (or property owner) to develop an agreement with the Native Americans for the treatment and disposition of the remains.

The State CEQA Guidelines Section 15064.5(b)(3) indicates that where significant impacts to an historical resource occurs, if a project follows the federal *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings, or the Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings* (1995), the impact shall generally be mitigated to a level of less than significant.

PARK PLAN GOALS AND GUIDELINES FOR CULTURAL RESOURCES

Recorded and unrecorded cultural resources within the Bidwell-Sacramento State Park and in the surrounding areas are an important component of the cultural heritage of the region. These include prehistoric and historic sites, features, and artifacts, and include those linked to the prominent Bidwell family who donated much of the Park's land to the Department for the use and inspiration of the people of California. Preservation and

interpretation of cultural resource features would be crucial in understanding early Native American and historic land use patterns in the vicinity of the Sacramento River.

As part of their commitment to the preservation of archaeological and historic values, the following goal and guidelines provide the basis for management of cultural resources within Bidwell-Sacramento State Park.

Goal ER-2.1: Locate and assess the significance of cultural resources within the Park.

- **Guideline ER-2.1-1:** Develop a Cultural Resource Management Plan (CRMP) for the Park. As part of the development of a CRMP, a comprehensive survey of the Park is necessary to survey, assess, and record known archaeological and historical resources within the Park. In addition, the CRMP will provide recommendations for the protection, preservation, and interpretation of significant cultural resources.

- **Guideline ER-2.1-2:** Perform cultural resource investigations of development sites prior to the construction of facility developments. If significant cultural resources are found, implement protective measures in compliance with federal and state laws and regulations.

- **Guideline ER-2.1-3:** Investigate the presence of cultural resources on nearby properties in collaboration with other stakeholders, where feasible.

4.5.3 ENVIRONMENTAL IMPACTS

CULTURAL RESOURCE INVENTORIES

Numerous sources were contacted and consulted to gather information regarding the existing conditions and cultural resources that may be located within the project area. A records search was conducted at the Northeast Information Center at California State University (CSU), Chico in February 2003, and updated with documents obtained in November 2006. Historic maps that were examined consisted of General Land Office (GLO) plat maps, including *Sacramento Valley* 1844, *Rancho Capay* 1858, *Rancho Arroyo Chico* 1859, and historic Butte County maps dated 1886, 1894, 1901, and 1913.

A small number of cultural resource inventories have been conducted within the vicinity of the project, but have met with only limited success in identifying archaeological resources associated with the prehistoric and early historic eras. Archival research, however, indicates a rich historic relationship between early agriculture, and development within the region and sites, features, and artifacts associated with these periods and activities likely exist within the immediate vicinity.

Inventories conducted thus far have primarily been limited to those associated with transportation, reclamation, and recreation projects. These investigations are summarized in Table 4.5-1. The entire Irvine Finch River Access was inventoried by the Department of Transportation as part of an assessment for a proposed bridge replacement on State Route (SR) 32. Small portions of the Bidwell-Sacramento River State Park Indian Fishery, Pine Creek Landing, and Big Chico Creek subunits were inventoried for various projects (Jones and Stokes 1996, Hood and McGuire 1981, Johnson 1975). These investigations have located four prehistoric sites (CA-But-189, CA-But-191, CA-But-402, CA-But-717) and a historic water transmission facility (CA-But-1352) within 1 mile of the project area.

As part of a large management plan, CSU, Chico conducted surveys of approximately 7,100 acres along the Sacramento River, including 657 acres along the west side of the river opposite the Singh parcel. Within this survey block no sites were discovered; however, five isolated finds, a trailer frame (P-11-625), two basket fish traps (P-11-625), a metasedimentary cobble core tool, a 20th-century building pad, and a piece of 19th-century glass were located (White 2003b).

Table 4.5-1
Previous Cultural Resource Investigations Conducted Within and Near the Project Site

Report	Author / Date	NEIC No.
Cultural Resources Inventory Report for the M&T Ranch/Parrott Pumping Plant and Fish Screen Project, Butte County, California	Jones and Stokes (1996)	B-L-633
No Title	Manning (1983)	B-L-574
Archaeological Reconnaissance of 26 Erosion Sites along the Sacramento River, Chico Landing to Red Bluff, Butte, Glenn, and Tehama counties, California	Johnson (1975)	B-150
Bidwell River Park Project (Chico Landing)	Hood and McGuire (1981)	--
Archaeological Reconnaissance of the Bidwell River Park	Hetherington (1980)	--
Cultural Resource Study for the Bidwell-Sacramento River Restoration Project, Butte County, California	Atchley (2000)	
Cultural Resource Overview and Management Plan	White (2003b)	6867

Source: EDAW 2006

NATIVE AMERICAN CONSULTATION

Project input was solicited from the NAHC, the Mechoopda Indian Tribe of Chico, and chairpersons with the Enterprise and Mooretown Rancherias at Oroville. A review of the Sacred Land Files by the NAHC did not reveal the presence of sensitive resources within the proposed project.

In a phone conversation between EDAW and Arlene Ward with the Mechoopda Indian Tribe of Chico, Ms. Ward expressed concern for the potential presence of subsurface deposits. She requested that a monitor affiliated with the Mechoopda Tribe be present during the removal of tree stumps and during any subsurface excavations associated with facilities development within the Nicolaus and Singh parcels. Further, the Mechoopda would like to see protocols established for the treatment of archaeological deposits that may be discovered during monitoring, and mitigation procedures to be followed in the event that significant subsurface deposits are encountered.

THRESHOLDS OF SIGNIFICANCE

The proposed project would be considered to have a significant effect on cultural/archaeological resources if it would:

- Cause a substantial adverse change in the significance of a historical resource, as defined by State CEQA Guidelines Section15064.5(a);
- Cause damage to or destroy a unique archaeological resource, as defined by State CEQA Guidelines Section 21083.2(g);
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature;
- Disturb any human remains, including those interred outside of formal cemeteries (PRC Section 5097.98).

A historical resource may include archaeological sites. Substantial adverse change means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the historical resources is materially impaired. Material impairment occurs when a project demolishes or materially alters, in an adverse manner, those physical characteristics that convey a resource's historical significance.

If an archaeological resource is neither a unique archaeological resource nor a historical resource, the effects on that resource shall not be considered a significant effect on the environment.

In order to be considered a fossil, a paleontological specimen must be more than 10,000 years old. Generally, rock formations within 8 to 10 feet of the soil surface are composed of deposits that are less than 10,000 years old. Since ground disturbing project activities would take place only within the top foot of soil, potential impacts to paleontological resources are not further addressed in this DEIR.

IMPACT ANALYSIS

IMPACT 4.5-a Potential Disturbances to Undocumented Cultural Resources. *Implementation of the project, including site preparation, planting, and recreation facilities development, may affect currently undiscovered or unrecorded archaeological sites. The possibility of disturbing unrecorded resources is considered a potentially significant impact.*

Background research coupled with field observations indicates the presence of a historic farmstead consisting of four buildings and three isolated prehistoric artifacts on the project site. There is also the potential for the presence of subsurface deposits particularly in the southeast corner of the Nicolaus parcel, where the three isolated finds are associated with a terrace consisting of older alluvium, which appears to be covered with a layer of finer silt deposited during recent and historic flooding episodes. The historic-era farmstead was recommended not eligible for inclusion in the CRHR. In addition, because of their lack of data potential and association, none, of the isolated prehistoric artifacts noted within the project site are considered eligible for CRHR listing (EDAW 2006). However, areas surrounding the Sacramento River were important to Native Americans as evidenced by the large number of habitation sites in the vicinity of the project. Because of this sensitivity, there is a high potential for the presence of subsurface archaeological deposits and human remains, particularly on the old alluvial terrace in the southeast corner of the Nicolaus property, which may be impacted by project-related ground disturbing activities. This impact is considered ***potentially significant***.

IMPACT 4.5-b Potential Disturbances to Undocumented Human Remains. *Currently undiscovered human remains may be uncovered during proposed project activities. The possibility of disturbing human remains is considered a potentially significant impact.*

Activities related to implementation of the proposed project would include orchard removal, discing, seeding, planting, and development of recreational facilities. Many of these activities are standard agricultural practices already in use throughout the study area. Irrigation system modification and expansion would include standard trench and backfill techniques. Because of the proximity to the Sacramento River, and previous investigations in the region which have resulted in the discovery of human remains often associated with Native American habitation locales, there is a high potential for human remains to be uncovered during ground disturbing activities. The potential for buried human remains to be disturbed as a result of proposed project activities is considered a ***potentially significant*** impact.

4.5.4 MITIGATION MEASURES

Mitigation Measure 4.5-a: If unrecorded cultural resources are encountered during project-related ground-disturbing activities, a qualified cultural resources specialist shall be contacted to assess the potential significance of the find.

All excavations shall be monitored by a qualified professional archaeologist. If a discovery of cultural materials (e.g., unusual amounts of shell, animal bone, bottle glass, ceramics, structure/building remains, etc.) is made during project-related construction activities, ground disturbances in the area of the find will be halted within a 100-foot radius of the find, and State Parks staff shall be notified of the discovery. State Parks shall retain a professional archaeologist who, in consultation with the Mechoopda Tribe of Chico, shall determine whether the

resource is potentially significant as per the CRHR and develop appropriate mitigation. Appropriate mitigation may include no action, avoidance of the resource, and potential data recovery.

Implementation of Mitigation Measure 4.5-a would reduce potentially significant impacts resulting from inadvertent damage or destruction of unknown cultural resources during ground disturbing activities to a ***less-than-significant*** level.

Mitigation Measure 4.5-b: Stop potentially damaging work if human remains are uncovered during project-related ground-disturbing activities, assess the significance of the find, and pursue appropriate management.

California law recognizes the need to protect interred human remains, particularly Native American burials and associated items of patrimony, from vandalism and inadvertent destruction. The procedures for the treatment of discovered human remains are contained in California Health and Safety Code Section 7050.5 and Section 7052 and California Public Resources Code Section 5097.

In accordance with the California Health and Safety Code, if human remains are found in any location other than a dedicated cemetery, the California Health and Safety Code requires that excavation is halted in the immediate area. The county coroner shall be notified and is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or state lands (Section 7050.5[b]). If the coroner determines that the remains are those of a Native American, he or she must contact the NAHC by phone within 24 hours of making that determination (Section 7050.5[c]).

The responsibilities of the NAHC for acting upon notification of a discovery of Native American human remains are identified within the California Public Resources Code (PRC Section 5097.9). The NAHC is responsible for immediately notifying the person or group it believes is the Most Likely Descendant (MLD). With permission of the legal landowner(s), the MLD may visit the site and make recommendations regarding the treatment and disposition of the human remains and any associated grave goods. This should be conducted within 24 hours of their notification by the NAHC (PRC Section 5097.98[a]). If an agreement for treatment of the remains cannot be resolved satisfactorily, any of the parties may request mediation by the NAHC (PRC Section 5097.94[k]). Should mediation fail, the landowner or the landowner's representative must re-inter the remains and associated items with appropriate dignity on the property in a location not subject to further subsurface disturbance (PRC Section 5097.98[b]).

Through agreement on the treatment and disposition of human remains reached between the MLD and the California Department of Parks and Recreation with the assistance of the archaeologist, or through mediation by the NAHC, implementation of Mitigation Measure 4.5-b would reduce potentially significant impacts associated with the discovery of human remains to a ***less-than-significant*** level.